

Figure 1.

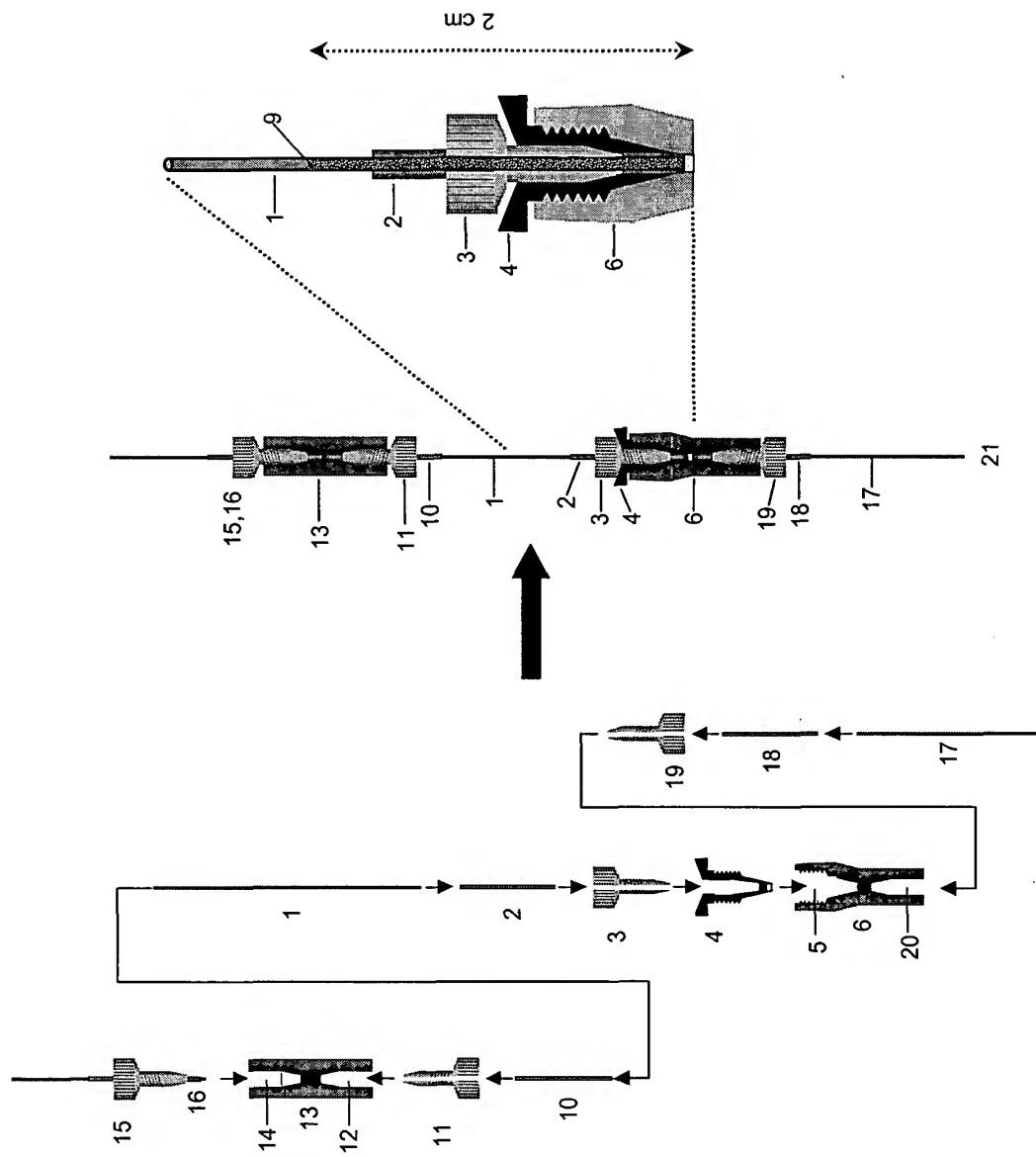


Figure 2.

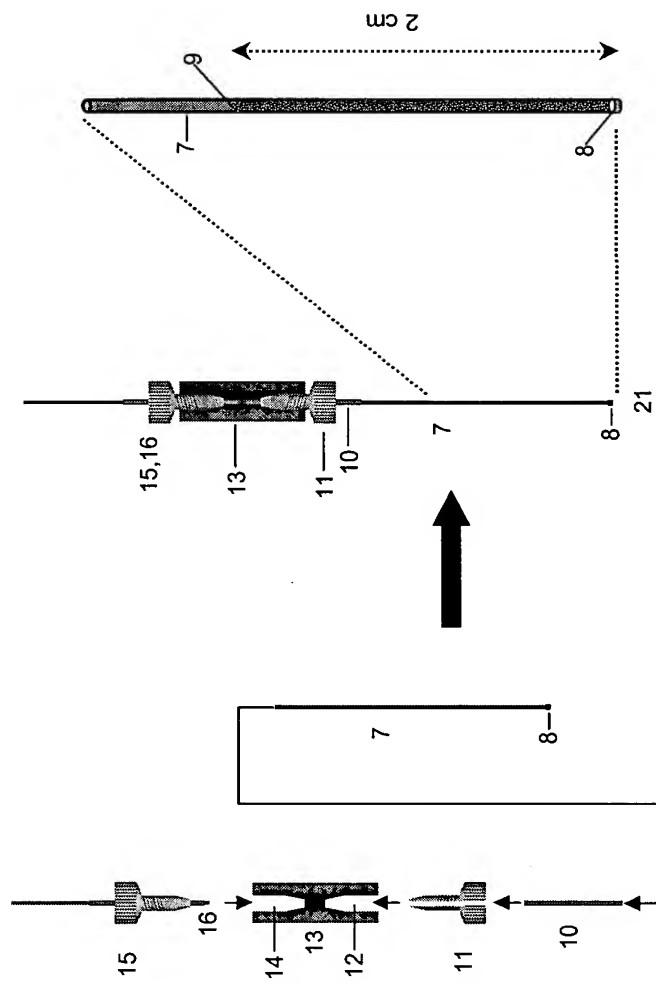


Figure 3.

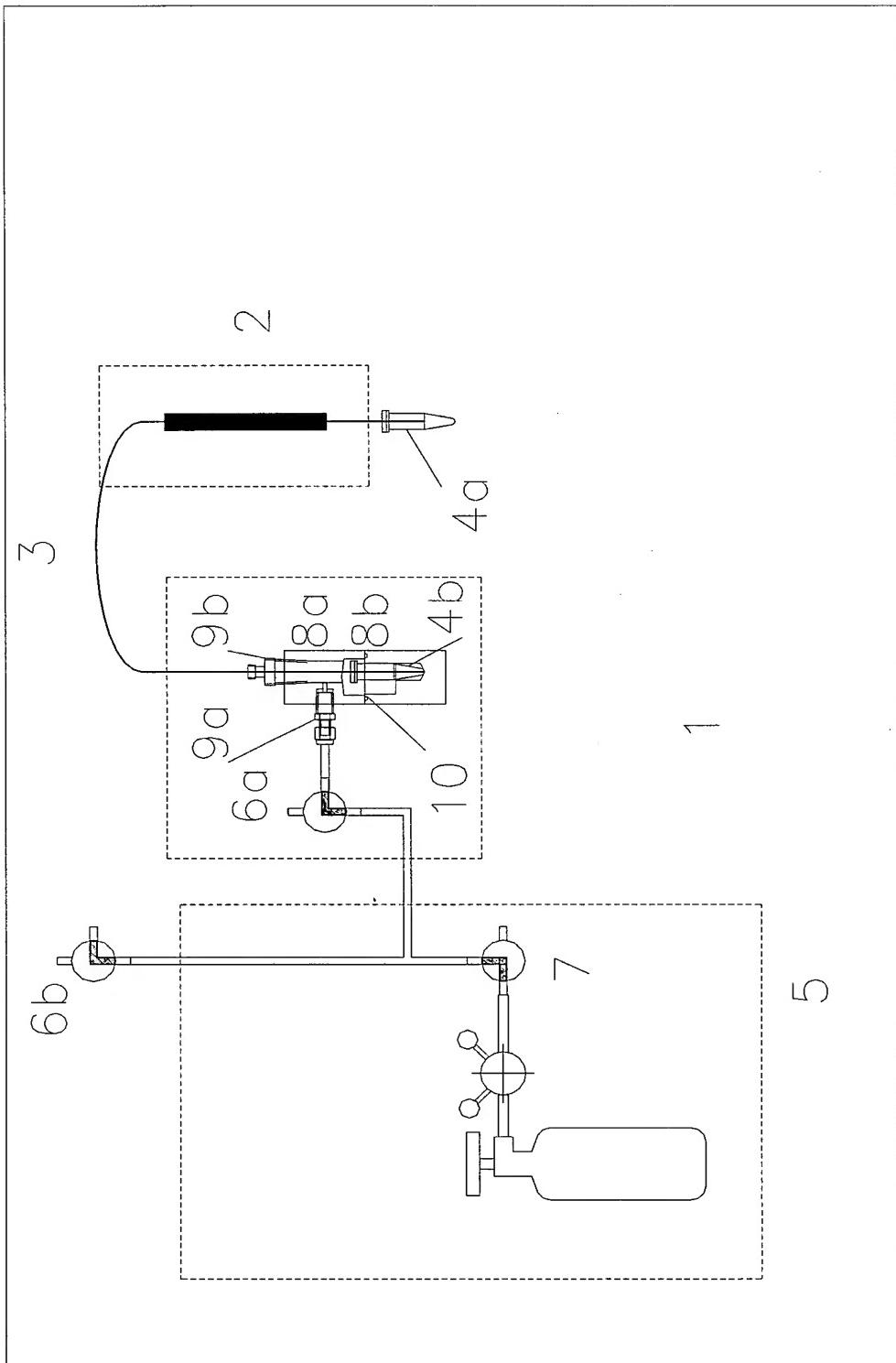
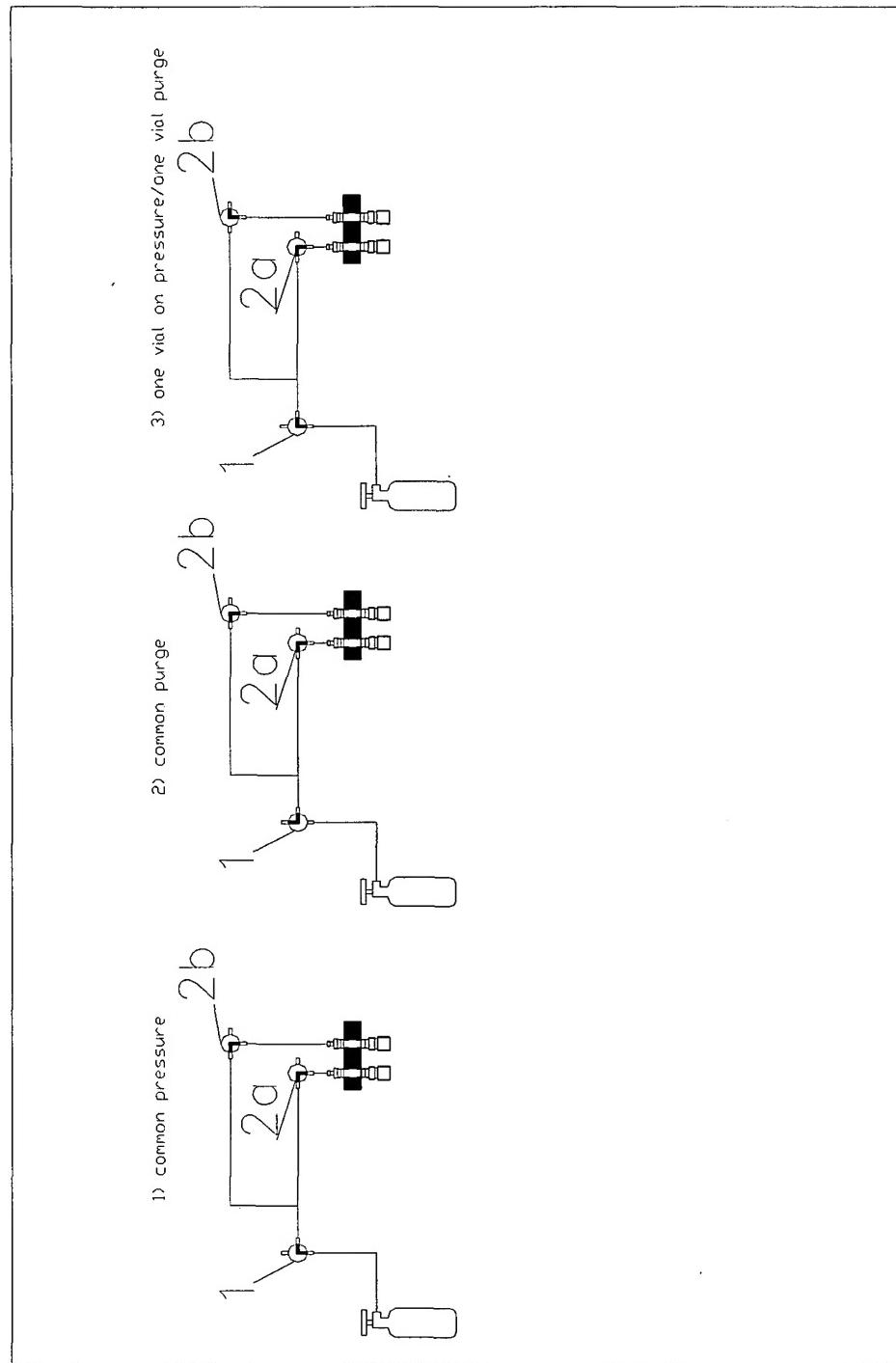


Figure 4.



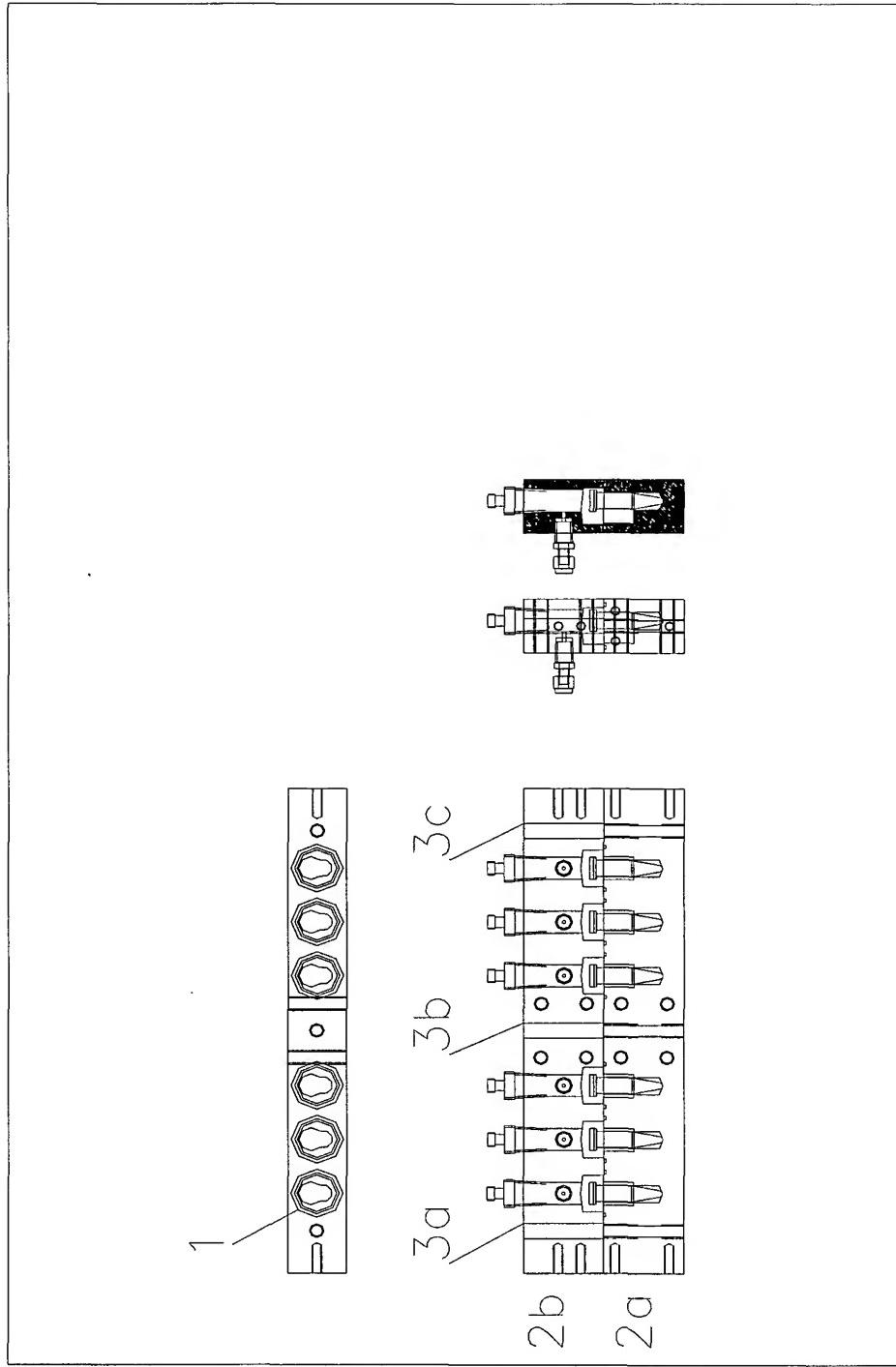
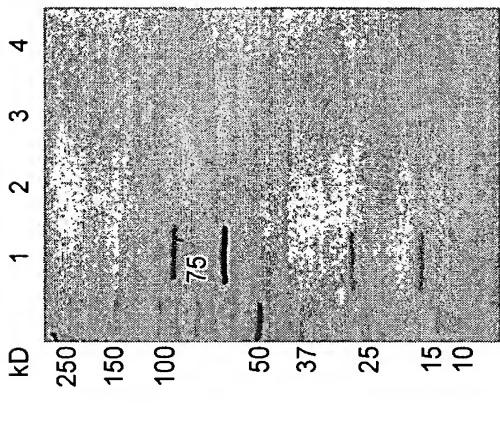


Figure 5.



- 1 - starting material (10 pmol each protein)
- 2 - column flow through (FT fraction)
- 3 - First wash fraction
- 4 - Second wash fraction

Figure 6.

Phosphorylase B peptide TNFDAPDK
Monoisotopic mass = 1053.48
Observed mass (2+ charge) = 527.70

Phosphorylase B peptide H1.QIYEINQR
Monoisotopic mass = 1425.77
Observed mass (2+ charge) = 713.90

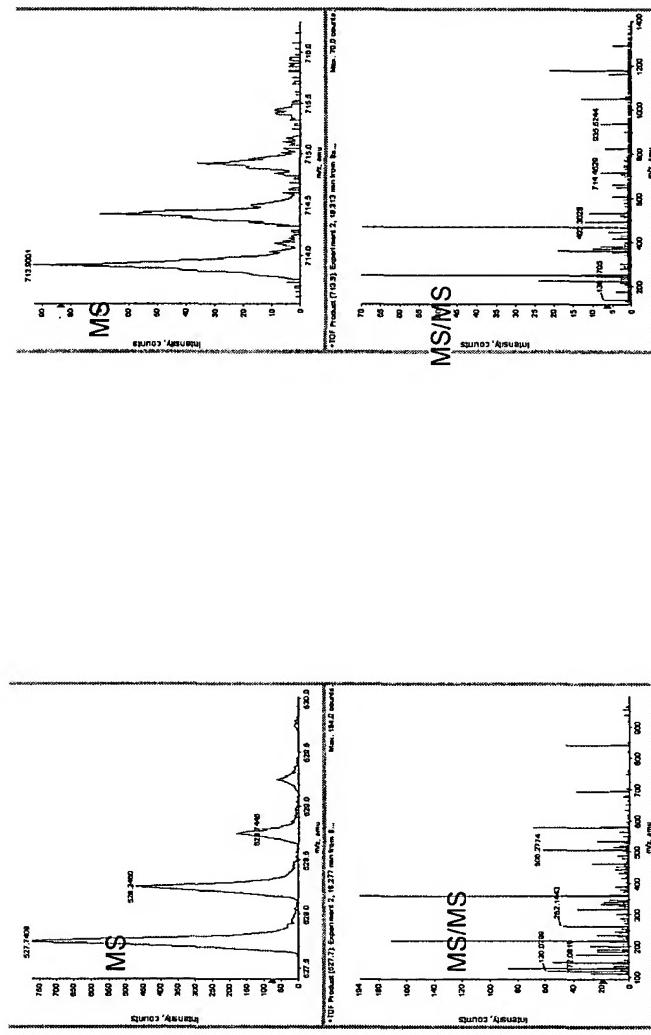


Figure 7.

BSA peptide LVNELTEFAK
 Monoisotopic mass = 1162.62
 Observed mass (2+ charge) = 582.30

Carbonic anhydrase peptide VLDALDSIK
 Monoisotopic mass = 972.55
 Observed mass (2+ charge) = 487.30

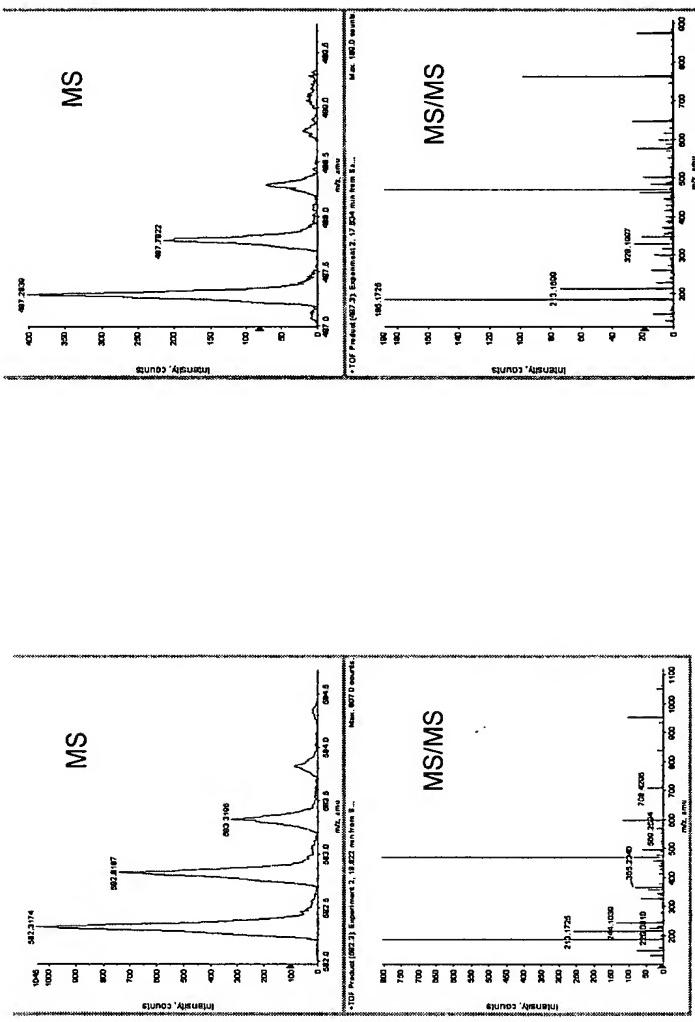


Figure 8.

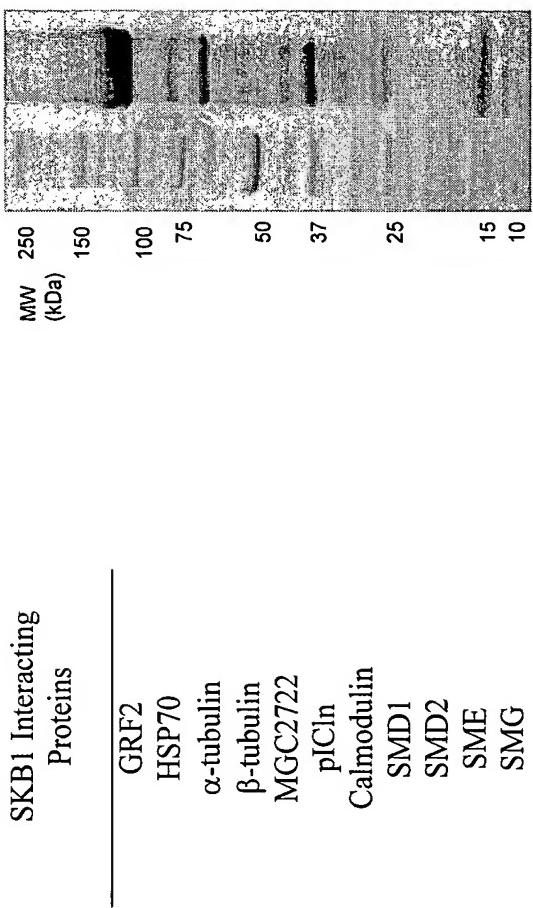
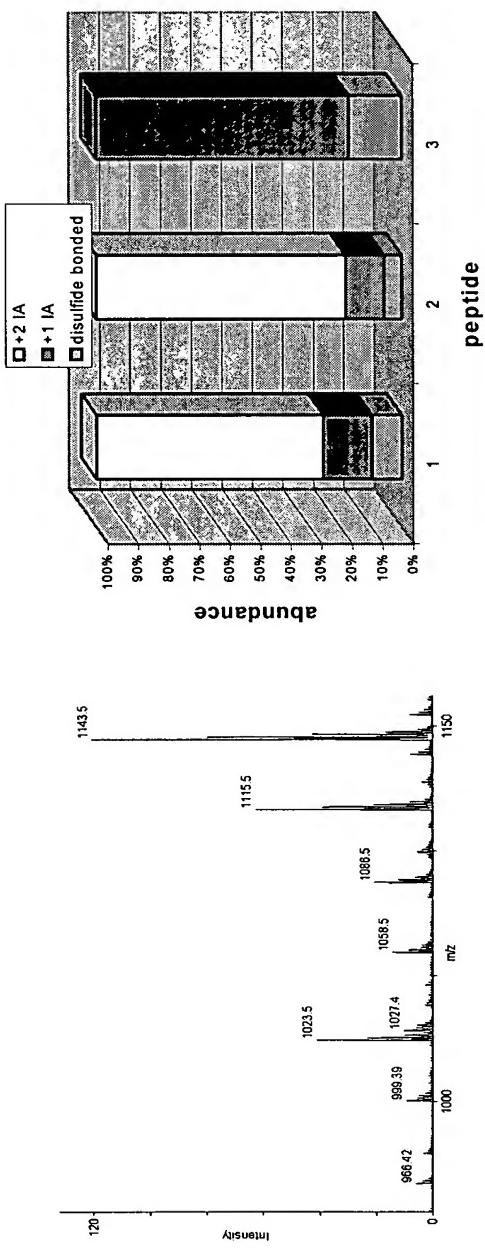


Figure 9.

Figure 10.



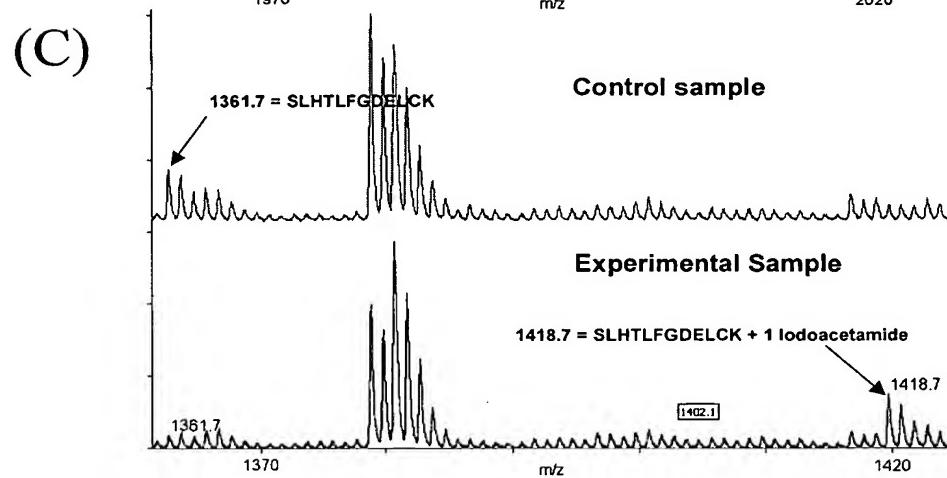
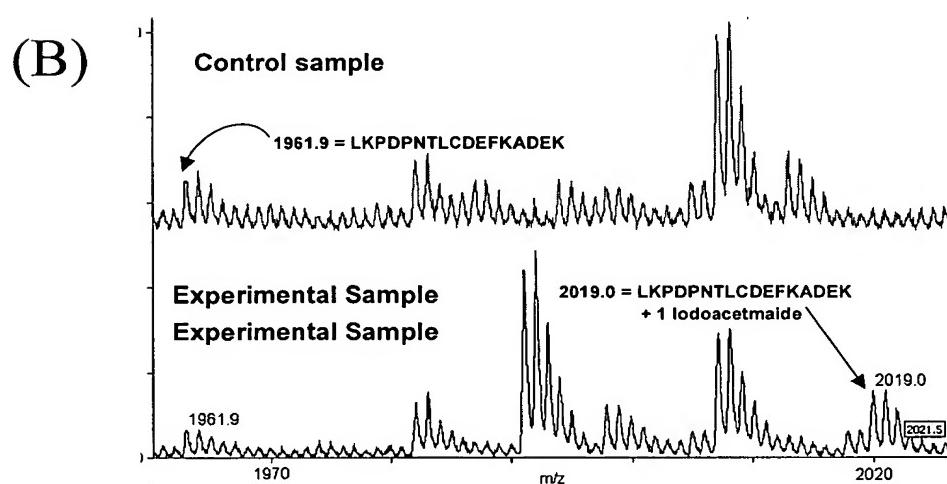
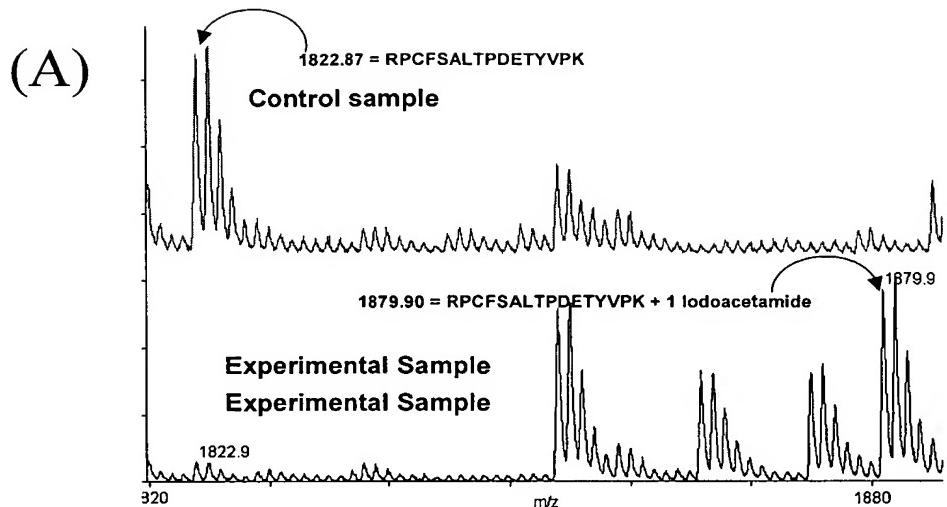
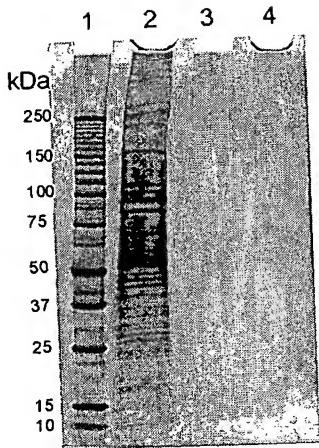
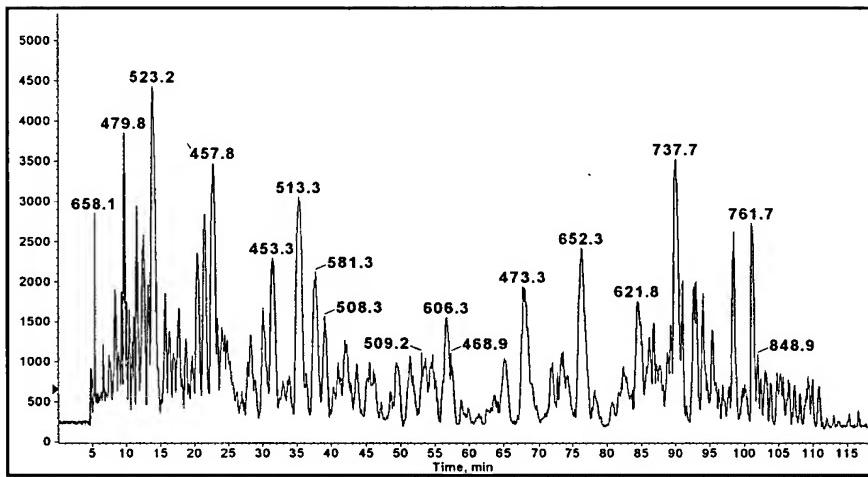


Figure 11.



SDS-PAGE analysis of fractions obtained from the Reactor processing of 1 ug of Human K562 proteins extracted with 1% Triton X-100, 150 mM NaCl. Lane (1) molecular weight marker proteins; (2) 1 ug of the lysate; (3) the flow through fraction collected after completion of loading the sample onto the reactor column; and (4) the eluate collected after washing the protein-loaded column with buffer K1 containing 20% acetonitrile. The observation that no proteins are visible in lanes (3) and (4) indicates that all proteins loaded onto the column are immobilized onto the resin.

Figure 12.



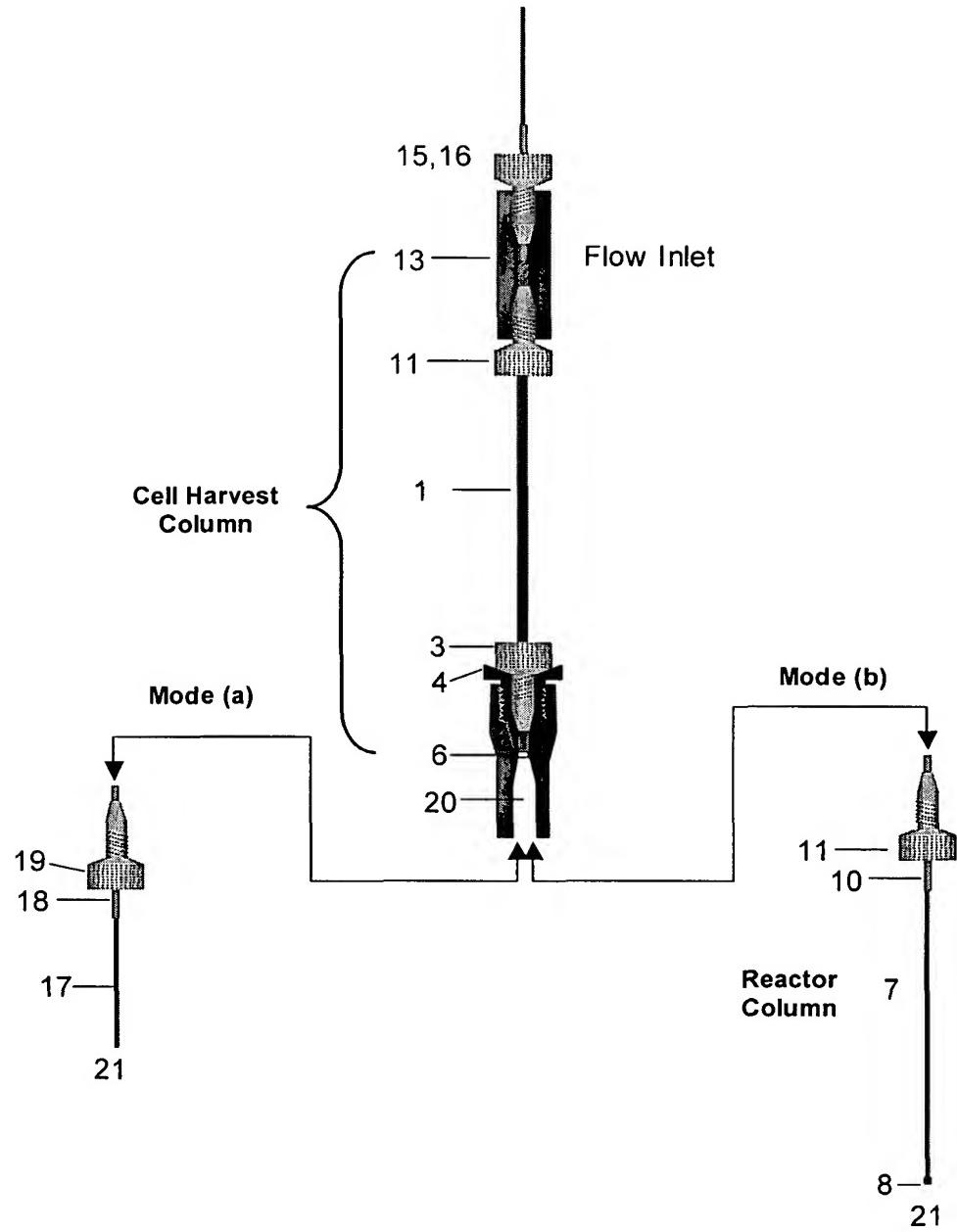
MS Base Peak total ion chromatogram obtained from analysis of 1 ug of Human K562 proteins extracted with 1% Triton X-100, 150 mM NaCl and subjected to tryptic digestion using the reactor device.

Figure 13

1	gi 5729877	66	gi 21464101	131	gi 5453603	196	gi 4759212
2	gi 135471	67	gi 21359837	132	gi 5032051	197	gi 4505773
3	gi 11277141	68	gi 4506743	133	gi 17511976	198	gi 5032179
4	gi 4503571	69	gi 4583153	134	gi 7387740	199	gi 6005942
5	gi 13129150	70	gi 435476	135	gi 4503609	200	gi 306553
6	gi 23958133	71	gi 12654583	136	gi 7705849	201	gi 14141166
7	gi 15277503	72	gi 4506691	137	gi 2773158	202	gi 4885413
8	gi 462325	73	gi 4758304	138	gi 4506183	203	gi 12056473
9	gi 229674	74	gi 4885063	139	gi 4506685	204	gi 223582
10	gi 135395	75	gi 14043107	140	gi 6005749	205	gi 12314029
11	gi 6470150	76	gi 1362935	141	gi 4506631	206	gi 4758988
12	gi 4503471	77	gi 15431295	142	gi 15990473	207	gi 13096779
13	gi 4503483	78	gi 21618359	143	gi 4506407	208	gi 6031192
14	gi 21735621	79	gi 4758950	144	gi 4506185	209	gi 20070156
15	gi 23200508	80	gi 135538	145	gi 5453854	210	gi 68655
16	gi 4501881	81	gi 5802974	146	gi 13477319	211	gi 14603295
17	gi 4502101	82	gi 35903	147	gi 10716563	212	gi 4506413
18	gi 1136741	83	gi 20141357	148	gi 2914385	213	gi 4502303
19	gi 4557032	84	gi 14165437	149	gi 12804069	214	gi 2136258
20	gi 31645	85	gi 4506695	150	gi 178152	215	gi 190447
21	gi 17318569	86	gi 5803225	151	gi 4506195	216	gi 16877878
22	gi 12804335	87	gi 15928913	152	gi 339721	217	gi 21750187
23	gi 21040386	88	gi 2507169	153	gi 18104948	218	gi 340219
24	gi 999892	89	gi 5031635	154	gi 4506619	219	gi 9257073
25	gi 136429	90	gi 12643945	155	gi 21754275	220	gi 3088341
26	gi 14251209	91	gi 16307182	156	gi 12804561	221	gi 5419855
27	gi 5453539	92	gi 17402893	157	gi 423071	222	gi 19684029
28	gi 229161	93	gi 285975	158	gi 18255173	223	gi 88166
29	gi 13786849	94	gi 10241525	159	gi 5453880	224	gi 4758756
30	gi 4505763	95	gi 4759316	160	gi 4507217	225	gi 17158044
31	gi 15988413	96	gi 4099506	161	gi 16876992	226	gi 2144539
32	gi 2245365	97	gi 19851919	162	gi 4506643	227	gi 5174529
33	gi 5174727	98	gi 14277700	163	gi 5031973	228	gi 4506693
34	gi 4505591	99	gi 12804225	164	gi 7656952	229	gi 3660276
35	gi 129379	100	gi 13641857	165	gi 4505587	230	gi 14043072
36	gi 2559008	101	gi 4507357	166	gi 15808607	231	gi 35830
37	gi 20981679	102	gi 4503915	167	gi 16117794	232	gi 5031931
38	gi 3318949	103	gi 4502643	168	gi 15079238	233	gi 1362931
39	gi 20178296	104	gi 15718687	169	gi 5803013	234	gi 4507367
40	gi 35068	105	gi 2506462	170	gi 4503841	235	gi 6912686
41	gi 16306978	106	gi 18204442	171	gi 4503725	236	gi 4506681
42	gi 114549	107	gi 4506671	172	gi 3659957	237	gi 14286202
43	gi 5031851	108	gi 2979601	173	gi 14042261	238	gi 15679932
44	gi 4557703	109	gi 18655686	174	gi 4504523	239	gi 6650826
45	gi 20127454	110	gi 5174539	175	gi 4507211	240	gi 13785574
46	gi 4506661	111	gi 913159	176	gi 4506725	241	gi 499158
47	gi 16579885	112	gi 17505189	177	gi 4758294	242	gi 20550589
48	gi 5174447	113	gi 387016	178	gi 4506663	243	gi 5901896
49	gi 4507879	114	gi 15431310	179	gi 2624694	244	gi 20540572
50	gi 4503529	115	gi 4503481	180	gi 15928753	245	gi 18566774
51	gi 4507953	116	gi 9966867	181	gi 1709514	246	gi 1313962
52	gi 4757810	117	gi 5454088	182	gi 5453595	247	gi 35655
53	gi 4758638	118	gi 6855633	183	gi 4507789	248	gi 4507793
54	gi 21961605	119	gi 4885375	184	gi 14424755	249	gi 179227
55	gi 9845502	120	gi 190201	185	gi 14198278	250	gi 2689608
56	gi 5453607	121	gi 23110944	186	gi 17391426	251	gi 17471847
57	gi 16041796	122	gi 11321591	187	gi 4506697	252	gi 68293
58	gi 3891601	123	gi 4758112	188	gi 4105819	253	gi 4885153
59	gi 4505257	124	gi 4757900	189	gi 4506703	254	gi 13097600
60	gi 4507677	125	gi 1173054	190	gi 21104510	255	gi 15928999
61	gi 4092054	126	gi 21536286	191	gi 4557809	256	gi 4758544
62	gi 4506741	127	gi 14749869	192	gi 13195586	257	gi 16306658
63	gi 4507521	128	gi 4506609	193	gi 4502203	258	gi 20141403
64	gi 1421609	129	gi 12653279	194	gi 2674062	259	gi 1673514
65	gi 968888	130	gi 12229876	195	gi 21956645		

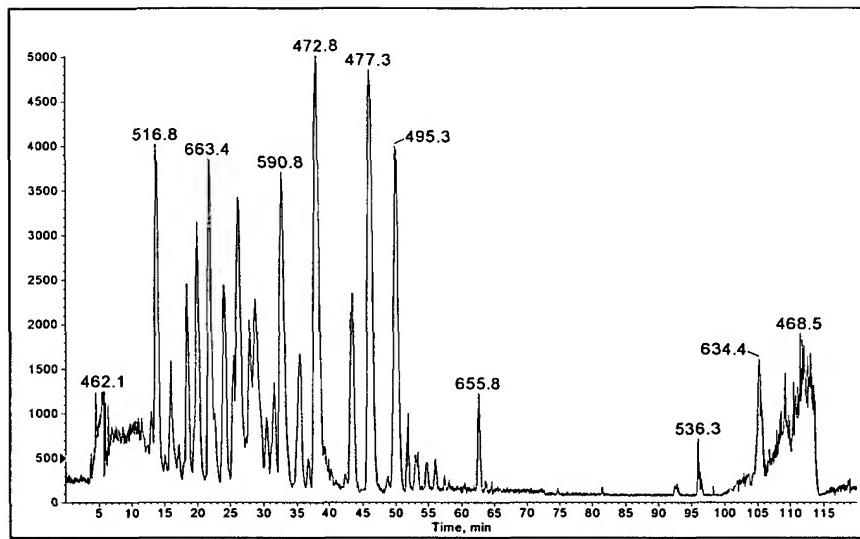
Proteins identified from the analysis of 1 ug of Human K562 proteins extracted with 1% Triton X-100, 150 mM NaCl and subjected to tryptic digestion using the reactor device and mass spectrometry analysis. For clarity, only the protein gi is provided.

Figure 14



Components for the continuous in-line coupling of cell harvest and lysis (*mode a*) with reactor based sample processing (*mode b*) including the cell harvest column and the reactor column. Refer to Section A for the label designations for the device components.

Figure 15



MS Base Peak total ion chromatogram obtained from MS analysis resulting from the in-line integrated processing of ~1000 human 293F cells.

Figure 16

1	gi 4507895	41	gi 2143900	81	gi 13278099
2	gi 576368	42	gi 13652324	82	gi 18379349
3	gi 2119712	43	gi 4008131	83	gi 25047232
4	gi 292059	44	gi 20177936	84	gi 23618867
5	gi 14603309	45	gi 6681153	85	gi 2136315
6	gi 547749	46	gi 18587823	86	gi 14110414
7	gi 7245722	47	gi 6671622	87	gi 4826860
8	gi 17318569	48	gi 9910542	88	gi 5174449
9	gi 4557703	49	gi 11120720	89	gi 13385942
10	gi 2598562	50	gi 4757900	90	gi 4505773
11	gi 22060712	51	gi 7662673	91	gi 17438583
12	gi 70716	52	gi 202229	92	gi 13928824
13	gi 10720216	53	gi 21431618	93	gi 4507127
14	gi 10800140	54	gi 13435636	94	gi 7446333
15	gi 6648067	55	gi 5802974	95	gi 5107682
16	gi 4758304	56	gi 4504255	96	gi 15488917
17	gi 1374715	57	gi 1710636	97	gi 14249144
18	gi 229552	58	gi 10801618	98	gi 9506713
19	gi 12847394	59	gi 4504069	99	gi 4503481
20	gi 20070125	60	gi 4759160	100	gi 5454152
21	gi 4757810	61	gi 20137006	101	gi 16307468
22	gi 2506774	62	gi 10716563	102	gi 23595641
23	gi 1070593	63	gi 15988512	103	gi 4504505
24	gi 6755863	64	gi 4505687	104	gi 5921899
25	gi 86755	65	gi 585957	105	gi 15990473
26	gi 20345957	66	gi 337424	106	gi 21748542
27	gi 2098329	67	gi 21312912	107	gi 125086
28	gi 4885511	68	gi 4506675	108	gi 18549572
29	gi 5762313	69	gi 11436533	109	gi 223556
30	gi 122009	70	gi 6942233	110	gi 21903482
31	gi 20892931	71	gi 4504047	111	gi 13654278
32	gi 5453840	72	gi 494360	112	gi 6680498
33	gi 21313162	73	gi 904032	113	gi 1575607
34	gi 179212	74	gi 4105819	114	gi 5803201
35	gi 2119367	75	gi 13096347	115	gi 117102
36	gi 4504445	76	gi 89164	116	gi 25992703
37	gi 2624694	77	gi 6457344	117	gi 13385872
38	gi 12653785	78	gi 4557525	118	gi 1304314
39	gi 20829447	79	gi 4758112		
40	gi 4506243	80	gi 13129092		

Proteins identified from the in-line integrated processing of ~1000 human 293F cells. For clarity, only the protein gi is provided.

Figure 17